



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,959	07/14/2003	Ronald H. Kearnes	45837.2.11	6415

22859 7590 04/18/2007
INTELLECTUAL PROPERTY GROUP
FREDRIKSON & BYRON, P.A.
200 SOUTH SIXTH STREET
SUITE 4000
MINNEAPOLIS, MN 55402

EXAMINER

LAZORCIK, JASON L

ART UNIT	PAPER NUMBER
----------	--------------

1731

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	10/618,959	KEARNES ET AL.
	Examiner	Art Unit
	Jason L. Lazorcik	1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 01/22/2007 and 03/02/2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 25,27,29-50,52,53,58 and 59 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 4,48 and 59 is/are allowed.
- 6) Claim(s) _____ is/are rejected.
- 7) Claim(s) 44-46,50 and 53 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 25, 27, 29-42, 49, 52, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cabo(US 2003/0014998 A1) in view of Argoititia (US 6,749,936 B2) and Gajewski (US 5,208,080) Hereafter referred to as Cabo-Argeitia-Gajewski.

Briefly, Cabo teaches a method of assembling a laminate structure consisting of two glass sheets separated by an interposed layer of colored glass particles which is fused into a unitary body at elevated temperatures.

Specifically, Cabo sets forth a process for producing a ceramic panel or tile which absent any compelling evidence to the contrary is held equivalent to the claimed "slab of gemstone material". In accord with this method, the reference teaches;

1. Provide first and second sheets of translucent glass (pg1, ¶[0010].

Art Unit: 1731

2. Coating at least a portion of at least one of the sides of the first or second sheets with a ceramic paint (pg 1, ¶[0011]) wherein said ceramic paint coatings comprise a ceramic frit, pigment and a vehicle (pg2, ¶[0026]). It is further noted that the frit is prepared by grinding frit batch ingredients into fine particles so as to pass through a 325 US Standard Sieve mesh screen or finer.
3. Placing first and second coated sheets together to form a sandwich structure (pg1, [0012]).
4. Heating the sandwich (structure) to a sufficient temperature between about 1300°F and about 1600°F (704°C to 871°C) for a sufficient time such that the first and second coated sheets of glass are fused together (pg1, [0014]) such that the plurality of particles become fused between the sheet-like substrates.

Although the instant reference is silent regarding a step of cutting and faceting the thus produced glass tile, such an operation would have been a mere obvious extention over the Cabo teachings for one having an ordinary skill in the art at the time of the invention [Claim 58]. Applicant further recites that the cut material yields "gemstones or cabochens", however no material or structural characteristics have been defined in the disclosure which would patentably distinguish the claimed gemstones or cabochens from the material produced in the prior art.

Now, as disclosed the Cabo process fails to particularly indicate that that the plurality of particles should be of a "dichroic" nature where the term "dichroic" is understood as the property possessed by some crystals of exhibiting two different colors when viewed

along different axes (The American Heritage® Dictionary of the English Language: Fourth Edition. 2000).

Argoitia presents a route to the fabrication of achromatic multilayer diffractive pigment flakes and foils which incorporate diffractive structures on their surfaces. The excerpt of Figure 21 from the immediate reference as presented below indicates that the Argoitia diffractive pigment flakes exhibit at least two different colors when viewed along different axes. It is therefore understood that the diffractive pigment flakes described in the immediate reference are effectively equivalent the claimed "a plurality of dichroic particles". It is further indicated that the diffractive pigment flakes can be used to "add unique decorative features to products" (Column 6, Lines 31-35) and that the provided optical effect is typically manifest under direct irradiation as a rainbow of colors surrounded by a silvery or bright metallic region" (Column 6, Lines 62-66).

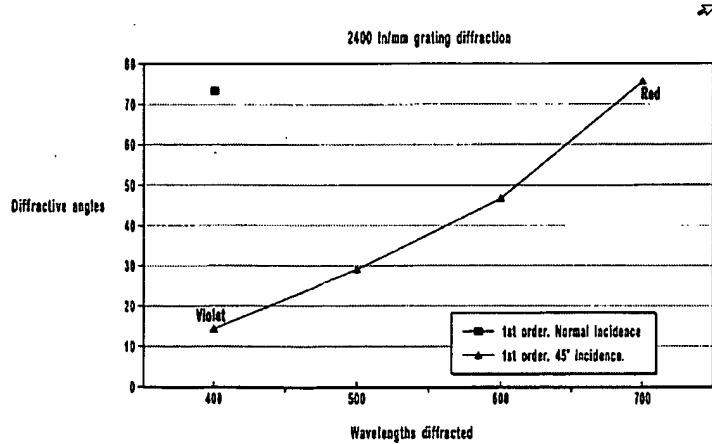


FIG. 21

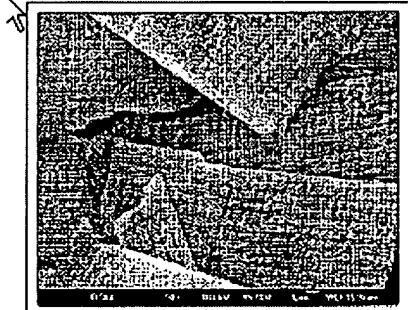


FIG. 28

It would therefore be obvious to one of ordinary skill in the art attempting to produce a laminated glass object presenting a unique dichroic optical effect to substitute

the pigment in the ceramic paint set forth by Cabo with the dichroic pigment flakes or "a plurality of dichroic particles" as described by Argoitia in order to achieve "a unique decorative feature".

Continuing, the Cabo and Argoitia references teach the heating of a laminate structure to fuse said structure into a unitary body as indicated above, but they are collectively silent regarding the requirement wherein the heating should be conducted under a vacuum environment. Gajewski indicates that problems of optical distortion can arise in a laminate structure due to trapped air and moisture (Column 2, Lines 32-36). The immediate reference further indicates that a laminate assembly may be heated, preferably while under vacuum by known means, such as placing the laminate assembly in a heated chamber (Column 6, lines 31-34). Gajewski continues (Column 6, Lines 48-51) by stating that after heating under vacuum, "the laminate assembly may be removed from vacuum for application of additional heat and laminating pressure to bond the laminate elements". It would have been obvious to one of ordinary skill in the art at the time of the invention attempting to preclude optical distortions arising from entrained moisture or gas in a structure as set forth by Cabot-Argeitia, to perform at least a portion of the heating step under vacuum as indicated by Gajewski.

Regarding **Claim 27**, Gajewski indicates an intended use of the manufactured to include incorporation into an automobile windshield which is traditionally utilized at normal ambient conditions. As such, the process related by Gajewski, which includes a

Art Unit: 1731

heating step or "period", inherently includes a cooling step or "a desired cooling period" on the return to ambient conditions from the "elevated temperature". Further, Gajewski indicates that after elimination of the vacuum, the laminate is exposed to elevated temperatures and elevated pressures generally approaching 100 psig to 200 psig in an autoclave (Column 6, Lines 48-59). Since Gajewski sets forth no further process steps involving sub-atmospheric pressures or processes carried out "under vacuum", it is understood that the remainder of the process including the "cooling period" proceeds at or above ambient pressure conditions. Therefore, the process as set forth in the immediate reference is understood to read on Claim 27 wherein a laminate is allowed to cool for a "desired cooling period" and the laminate is exposed to atmospheric pressure or super-atmospheric pressure during at least a portion of the cooling period.

With respect to **Claims 29 through 31** and in view of the Gajewski utilization of an applied vacuum to preclude optical distortion in fused laminate structures arising from entrained air and moisture, it would be obvious to optimize said applied vacuum to optimize the rate of removal of said entrained air and moisture for the following reasons. The relationship between an applied pressure and the rate of mass transport entrained gases from a fluid into the vapor state is old and well established. Specifically a simplified relationship system pressure (P) with mass transport rate or "total outgassing rate" (Q) is well established in the art by the following (<http://cas.web.cern.ch/cas/Spain-2006/PDFs/Chiggiato-1.pdf>):

The total outgassing rate Q , together with the applied pumping speed S , defines the pressure in the vacuum system:

$$P = \frac{Q}{S} + P_0$$

P_0 : ultimate pressure of the pumping system.

In general S varies in a range of three orders of magnitude ($\approx 1 \rightarrow 1000 \text{ l.s}^{-1}$) while Q can extend over more than 10 order of magnitude ($\approx 10^{-5} \rightarrow 10^{-15} \text{ Torr l.s}^{-1}.\text{cm}^{-2}$).

Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation."; see In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation (See In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) and In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977)). Since it is old and well known in the art that the rate of outgassing is related to the instantaneous system pressure, system pressure or the magnitude of "a vacuum" is considered a result-effective variable. It would have been obvious with respect to Claims 29 through 31 for one of ordinary skill in the art at the time of the invention to vary the magnitude of the applied vacuum during the heating step of the lamination process in order to optimize the outgassing rate of entrained water and air.

Claim 32 is rendered obvious in light of the rejection of Claim 27 wherein Gajewski disclosed that the laminate assembly is heated, while still under vacuum, by placing the laminate assembly in a heated chamber (Column 6, lines 31-34). Said heated chamber indicated as capable of supporting a vacuum is understood to be functionally equivalent to the claimed “vacuum chamber”. Further, the processing step set forth by Gajewski in the rejection of Claim 27 above indicated that the vacuum is vented and that the laminate is treated at elevated pressures of 100 – 200 psig (Column 6, Lines 48-59). Gajewski indicates that the application of elevated pressure or “laminating pressure” is effected in order to bond the laminate elements. This processing step is understood to read on the immediate claim wherein “the laminate is exposed to substantially atmospheric or **super-atmospheric pressure** by venting the chamber to an ambient atmosphere and/or **by delivering pressurized gas into the vacuum chamber.**” While Cabo-Arroitia makes no specific indication of applied pressure to the laminate during the fusing of the sheets, it would be obvious to one of ordinary skill to apply said pressure as taught by Gajewski in order to provide a uniform and intimate bond between said sheets during the fusing and bonding step.

With respect to **Claim 33**, the Claim 25 rejection above specifically indicated that the “substrates comprise glass sheets. Further, the Claim 26 rejection indicated that the heating step was to bring the laminate including said glass sheets to a temperature range of between about 704°C to about 871°C and it was set forth in the specification (pg 20, Lines 10-11) that a laminate in said temperature range is in a softened state. It

Art Unit: 1731

is therefore understood that by the rejection of Claim 26 that the laminate of the Cabo-Arroitia process is brought to the softened state by the heating step. Gajewski in the rejection of Claim 27 above indicated that the vacuum is vented and that the laminate is treated at elevated temperatures and elevated pressures of 100 – 200 psig (Column 6, Lines 48-59). Gajewski further indicates that the application of elevated pressure or “laminating pressure” is effected in order to bond the laminate elements. While Cabo-Arroitia makes no specific indication of applied pressure to the laminate during the fusing of the sheets, it would be obvious to one of ordinary skill to apply said pressure as taught by Gajewski ***before the glass sheets cool to a hardened state*** or as indicated in Claim 28 while the sheets are in the “fusing temperature” range.

Regarding Claim 34 and with specific reference to the Claim 33 rejection, Cabo indicates that fusing the laminate should take place at “the fusing temperature” which is understood to be at least at or of above the softening point of the sheet material. Further, as indicated in the Claim 33 rejection above, the application of pressure to the laminate sheet in the heated state is effected in order to assist in the bonding or fusing of the laminate elements. That said, it would be obvious to one of ordinary skill seeking to promote the fusion bonding of a laminate structure through application of elevated pressure as taught by Gajewski, to apply said elevated pressure to the laminate when the sheets are above the softening temperature or “in the softened state” as taught by Cabo.

Regarding **Claim 35** with particular reference to the rejection of Claim 34 above, the application of elevated pressure to the laminate while in the “elevated temperature” or “fusing temperature” state is an obvious extension of the laminating process taught by Cabo with pressure assisted bonding as taught by Gajewski. As indicated in the Claim 26 rejection, the fusion temperature set forth by Cabo is between 704°C to 871°C which is in the softened state as indicated in the specification (pg 20, Lines 10-11). A laminate exposed to substantially atmospheric pressure or super-atmospheric pressure as taught by the Cabo-Argeitia-Gajewski combination would be so exposed in a temperature range between 704°C and 871°C and therefore before the glass or crystal sheets cool to a temperature below about 600°C.

Similarly with respect to **Claim 36**, a laminate exposed to substantially atmospheric pressure or super-atmospheric pressure as taught by the Cabo-Gajewski combination would be so exposed while the glass sheets are at a temperature between about 704°C and about 871°C which reads on the claimed temperature range of about 600°C to about 850°C.

Regarding **Claim 37** and with reference to the rejection of Claim 25 above, Cabo (pg 3, ¶ [0031]) indicates that the laminate is manufactured by first applying the coating of ceramic paint to the first principle surfaces of the glass sheets and sandwiching together said principle sides to form a laminate. The Cabo-Argeitia combination reads on the immediate claim wherein the act of *applying the ceramic paint* is understood to

read as a method of **positioning the plurality of dichroic particles** between the sheet-like substrates.

Regarding **Claim 38**, Argoitia discloses that the diffractive pigment flakes which consist of a layered structure can be formed by a process where the various layers are sequentially deposited on a web material. Further, "This thin film structure is subsequently **fractured** and removed from the web to form a plurality of flakes" (Column 19, Lines 10-15). This disclosure by Argoitia is understood as a method wherein the plurality of dichroic particles comprises crushed dichroic particles and where "**fractured**" dichroic particles are held equivalent to "**crushed**" dichroic particles. Further, the claimed process of "providing of the laminate" which comprises providing said crushed dichroic particles and positioning said crushed dichroic particles is set forth by Cabo as outlined in the rejection of Claim 37 above.

Regarding **Claim 39** and in light of Claim 38, Argoitia indicates that the thin film structure, which is a precursor to the dichroic particles, is fractured or crushed. Further, the immediate reference indicates that the providing of the crushed dichroic particles comprises forming depositing dielectric layers or a "dichroic coating" on a support layer wherein said support layer may include silicon dioxide or glass (Column 19, Lines 50-56) and fracturing said coating to form flakes as indicated above. As such the Argoitia process reads on the immediate claim wherein the providing of crushed dichroic

Art Unit: 1731

particles comprises providing a glass sheet or "silicon dioxide support" **bearing** a "dichroic coating" or dielectric layers.

Regarding **Claim 40** and with particular reference to the Claim 39 rejection above, the Argoitia process reads on the immediate claim wherein the providing of crushed dichroic particles comprises providing a glass sheet or "silicon dioxide support" **bearing** with a "dichroic coating" or dielectric layers *wherein said dichroic coating is coated upon the glass sheet or "silicon dioxide support"*.

With respect to **Claim 41**, it is an old and well established practice in the art of manufacturing fine particulates to perform a size selection process by passing said particles through a variety of mesh screens. In the immediate case, Cabo indicates that in preparing the fine particulate ceramic frit for incorporation into the ceramic paint the crushed chunks of frit are crushed to a fine particles and passed through a 325 US Standard Sieve mesh screen or finer (pg2, ¶ [0027]). Further, Argoitia indicates that the diffractive pigment flakes can have a preselected size and loading in the pigment medium to suit the application technique (Column 22, Lines 26-30). It would therefore be obvious to utilize the well established mesh screen process to segregate dichroic pigment flakes described by Argoitia into size selected groups and to further recombine some particles from different size ranges so as to produce a "preselected size" or size distribution of particles in order to suite the particular deposition process.

Similarly with respect to **Claim 42**, Cabo indicated a method wherein particles are separated into different size selected groups by moving the crushed particles through one or more sieves as outlined above in the rejection of Claim 41.

With respect to **Claim 49**:

1. The rejection of Claim 25 set forth a method wherein two sheet like structures were provided along with a plurality of dichroic particles
2. The rejection of Claim 41 indicated that it would be obvious by Cabo-Arroitia to create a “preselected size” of dichroic pigment flakes by first separating the flakes into different groups and recombining some flakes from different groups into a “preselected size” range to produce “size classified particles”.
3. The rejection of Claim 37 indicated that it would be obvious according to the Cabo-Arroitia combination to position a plurality of size-classified particles between two sheet-like substrates to form a laminate.

And, the rejection of Claim 25 laid out that it would be obvious to heat the laminate to an elevated temperature such that the particles become fused between the sheet-like substrates.

Regarding **Claim 52** and with particular reference to the rejection of Claim 49 by the Cabo-Arroitia combination above and the rejection of Claim 27, the Cabo-Arroitia-Gajewski combination indicated that it would be obvious to cool the laminate for a

"desired cooling period" and to expose the laminate to atmospheric pressure or super-atmospheric pressure during at least a portion of the desired cooling period

Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Cabot, Argoitia, and Gajewski as applied to Claim 25 above and in further view of Phillips (5,424,119). Regarding **Claim 43**, method set forth in the prior art sets forth all the elements of Claim 25 while failing to indicate that the dichroic particles should be of a substantially uniform orientation. Phillips (5,424,119) lays out the details of a polymeric sheet comprising a material having parallel first and second surfaces and a plurality of oriented multilayer interference thin film flake disposed in the layer of said material. Specifically, the plastic sheet is extruded or cast (Column 1, Lines 17-20) and a mechanical flow induced by said extrusion or said casting is utilized to induce laminar flow orientation of the pigment flakes in the film optical product (Column 2, Lines 2-5). One of the principle objectives for said orientation process is to provide a product wherein a relatively low amount of flakes can be provided in the object while still achieving the desired optical effect (Column 1, Lines 58-61). The Phillips reference provides a clear motivation for one of ordinary skill in the art to orient the dichroic pigment flakes in the laminate structure as set forth by the Cabot-Argeitia-Gajewski combination in order to minimize the required amount of dichroic pigment flakes required in the laminate structure while maintaining the desired optical effect.

Allowable Subject Matter

Claims 44 to 46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 50 and 53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 47, 48 and new claim 59 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

With respect to claim 44 and dependents, the prior art of record does not reasonably anticipate nor render obvious the method as set forth in Claim 25 wherein dichroic particles sandwiched between two sheet-like substrates are arranged in a substantially uniform orientation by imparting shear upon the laminate and thereafter heated under vacuum at an elevated temperature between 600 and about 850°C to fuse said particles between said sheet-like substrates.

Similarly with respect to 47, 48 and new claim 59, the prior art of record does not anticipate nor render obvious the claimed method "comprising arranging the plurality of dichroic particles in a substantially uniform orientation, wherein the laminate is rotated to arrange the plurality of dichroic particles said substantially uniform orientation". Further,

Claims 50 and 53 recite the particular limitation of "arranging the plurality of dichroic particles in a substantially uniform orientation by imparting shear upon the laminate while the laminate is in the softened state".

Response to Arguments

Applicant's arguments, see pages 14 to 16, filed 03/02/2007, with respect to Claims 47 and 48 have been fully considered and are persuasive. The rejection of Claims 47 and 48 have been withdrawn.

Applicant argues that Cabo teaches away from any expectation of success when placed in combination with the vacuum-heating protocol taught by Gajewski. Examiner strongly disagrees for at least two reasons. First as clearly recited by Applicant (page 12, second paragraph), "Cabo expressly indicates that it is not understood how the layer of material...works to produce the dark spot". Even in light of this admission, Applicant asserts that an oxidative process is implicitly and necessarily the root cause of the dark spot formation and that said oxidative process is requisite for the successful performance of the Gajewski disclosure. In the absence of any conclusive supporting evidence, it is the Examiners position that the proposed oxidation process is unsubstantiated conjecture.

Art Unit: 1731

The Examiner is further unpersuaded by the above argument even in the event that an oxidative process shown as the route cause of the dark spot formation.

Applicants argument hinges upon the assumption first that under the reduced pressure of a vacuum all gaseous oxygen is depleted from the ambient and second that only gaseous or atmospheric oxygen may serve as an oxidative species in the alleged oxidation process.

It is the Examiners express position that both of these assumptions are fatally flawed. With respect to the first argument, it is a fundamental tenant of science that only under an absolute vacuum are all trace gaseous species removed from the ambient, and that such an assertion is supported by neither the Gajewski nor Cabo references. With respect to the second argument, any general inorganic text will clearly teach that gaseous oxygen is but only one example of an oxidative species and that red-ox reactions may and in fact do occur even between solid state species. Since Cabo provides no insight into the nature of the species involved in the alleged oxidation process, Applicants assertion that Cabo teaches away from the Gajewski vacuum process is found to be without merit.

In response to applicant's arguments against the applicability of the Gajewski reference individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091,

231 USPQ 375 (Fed. Cir. 1986). Applicant asserts that since Gajewski teaches a processing temperature in the range of 150-360°F and Cabo teaches a temperature range of about 600-850°C, the Gajewski teachings are inapplicable to the disclosed Cabo process. Examiner disagrees. Specifically, the Gajewski reference is invoked as a teaching that one of ordinary skill in the art would broadly recognize as applicable within a broad range of scenarios involving laminate fabrication. Irrespective of the choice of materials used, Gajewski teaches a method of eliminating wrinkling, air bubbles, and moisture in the laminate structure. It would certainly have been within the prevue of one having an ordinary level of skill in the art to adjust the processing temperature range in concert with the specific process materials.

Applicant further argues that none of the prior art references teach the particular step of separating the particles into groups of different sized particles with a subsequent recombination step. As set forth in the rejections above, Cabo teaches a positive step of sifting the particles through a mesh screen or finer which clearly reads upon the limitation of separating the particles into groups of different sized particles. The subsequent step of recombining particular size fractions represents a mere obvious type extension over the prior art teachings that would have been undertaken by one of ordinary skill as a matter of routine quality control practice. Therefore, absent any compelling and unexpected results to the contrary Applicants arguments regarding claim 49 are found to be wholly unpersuasive.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The United States patents to Soule (US 2,115,433) and Casto (US 2,115,409) teach decorative glass laminate structures which are deemed to represent state of the art.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason L. Lazorcik whose telephone number is (571) 272-2217. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00pm.

Art Unit: 1731

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JLL



STEVEN P. GRIFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700